

REMARKS/ARGUMENTS

Reconsideration of the application is respectfully requested.

I. Status of the Claims

Claims 1 - 12 are presently pending. Applicant amends claims 1 - 12 with regard to informalities, and amends claims 1, 6 and 9 so that elements of the claim elements of claims 6 and 9 are canceled from amended claims 6 and 9 and added to amended independent claim 1. No new matter is added. Support may be found in Applicant's specification, for example, at page 1, lines 31 - 33, page 7, lines 1 - 3, page 5, line 32 to page 7, line 25, and with reference to Applicant's FIGs. 2, 3.

II. Objection to Claim

Claim 11 is objected to in regard to informalities. Specifically, the Examiner finds that the term "the second portion" lacks sufficient antecedent basis. Applicant amends claim 1 to provide a proper basis for this term, and respectfully requests that the objection to claim 11 therefore be withdrawn.

III. Rejections under 35 U.S.C. §§ 102, 103

Claims 1 - 3, 5 - 8 and 10 - 12 are rejected under 35 U.S.C. § 102(b) as being anticipated by International Patent Publication No. WO 01/29444 to Roke et al. ("Roke")¹ Claims 1 - 5 are further

¹ In applying this reference, the Examiner makes citation to U.S. Patent No. 6,966,761, which was filed as a national phase application from the application underlying Roke.

rejected under 35 U.S.C. § 102(b) as being anticipated by French Patent Publication No. 743,398 ("the '398 Publication").

Claims 2 - 5 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Roke in view of Japanese Patent Publication No. 2001-123949 to Hidenobu et al. ("Hidenobu"). Claims 1 - 12 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Roke in view of U.S. Patent No. 6,174,141 to Song et al. ("Song"). Claims 1 - 5 are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,231,010 to Tojo et al. ("Tojo") in view of any of Roke, U.S. Patent No. 5,525,845 to Beale et al. ("Beale") and Hidenobu. Claims 6 - 12 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Tojo in view of any of Roke, Beale, Hidenobu and Song.

Applicant respectfully traverses the rejections of claims 1 - 12 under 35 U.S.C. §§ 102, 103.

Independent claim 1 claims:

1. A reciprocating compressor driven by a linear motor comprising a shell, within which are mounted:

a reference assembly formed by a motor and a cylinder;

a resonant assembly formed by a piston reciprocating inside the cylinder, and by an actuating means operatively coupling the piston to the motor; and

two spring means mounted to the resonant assembly and to the reference assembly and which are elastically and axially deformed in the displacement direction of the piston, the reciprocating compressor further comprising:

a mounting element coupling an end of one spring means to an end of the other spring means ; and

a coupling element which has an end mounted to the piston and an opposite end mounted to the mounting element, wherein:

the mounting element includes a first annular portion coupling an adjacent end of one of the two spring means, and a second portion coupling an adjacent end of the other spring means, said first and second portions being disposed at axially opposite sides of the resonant assembly, and being affixed to each other by rigid elements that are mounted, with a radial gap, through the actuating means.

Roke and the '398 Publication each disclose linear compressors having a coupling element for coupling axial movement between a piston and a mounting element that carries springs. The coupling element of Roke (element 124 of FIG. 1) appears to allow for transverse movement of the mounting element 25. Similarly, as the coupling element 12 of the '398 Publication includes ball mountings at each end, it also seems to allow for transverse movement of mounting element 10 (see FIG. 2 of the '398 Publication).

However, in comparison to Applicant's invention as claimed in amended independent claim 1, none of the cited references discloses or suggests means for specifically limiting the transverse movement of the spring means in the manner claimed by Applicant. As illustrated in Applicant's FIGs. 2 and 3, mounting element 40 includes first and second annular portions 41, 42 for carrying the spring means 10, rigidly coupled to each other by rigid elements 44, which pass through throughbores 5a in annular disc 5. Annular disc 5 holds an end of piston 2, and annular portion 42 holds an end of coupling element 50. With this configuration, transverse movement of the spring

means 10 is controlled to a “certain limited extension” by the dimensional relationships between these components, for example, including the fit of rigid elements 44 in throughbores 5a and the fit of piston 2 in annular disc 5 (see, e.g., page 5, line 32 to page 7, line 25 of Applicant’s specification and FIGs. 2, 3).

The Examiner suggests that the above-argued features of amended independent claim 1 are disclosed by Song. Applicant respectfully disagrees.

Song discloses a coupling structure for coupling a muffler to a linear compressor (see, e.g., abstract of Song). With reference to FIG. 9 of Song, support portion 19b and second coupling portion 223 carry spring means and are rigidly coupled by means of coupling bolts inserted through screw holes 213, 224. In sharp contrast to Applicant’s claimed invention, however, Song neither teaches nor suggests that coupling bolts are mounted in screw holes 213, 224 in such a manner as to maintain a radial gap between the coupling bolts and screw holes 213, 224 that permits a limited transverse movement according to the radial gap.

Rather, in Song, the coupling bolts are interferingly fitted o the screw holes 213, 214 in order to rigidly affix support portion 19b and coupling portion 223 to the piston 19 and magnet paddle 8. In addition, Song fails to teach or suggest any vertical offset of support portion 19b and coupling portion 223 from the piston 19 and magnet paddle 8, as would be required for example to permit limited transverse and longitudinal movement of support portion 19b and coupling portion 223 relative to magnet paddle 8 (compare, e.g., with first and second annular portions 41, 42 and annular disc 5 in Applicant’s FIGs. 2, 3).

For at least these reasons, Applicant respectfully submits that amended independent claim 1 is neither anticipated nor made obvious by any of the cited references, and stands in condition for

allowance. As claims 2 - 12 each depend either directly or indirectly from allowable independent claim 1, Applicants further submit that dependent claims 2 - 12 are also allowable for at least this reason.

Accordingly, Applicants respectfully request that the rejection of claims 1- 12 under 35 U.S.C. §§ 102, 103 be withdrawn.

CONCLUSION

In view of the above amendments, Applicants believe the pending application is in condition for allowance. Accordingly, the Examiner is respectfully requested to pass this application to issue.

The Examiner is respectfully requested to contact the undersigned at the telephone number indicated below once he has reviewed the proposed amendment if the Examiner believes any issue can be resolved through either a Supplemental Response or an Examiner's Amendment.

Dated: April 24, 2007

Respectfully submitted,

By J. Bean
Thomas J. Bean

Registration No.: 44,528
DARBY & DARBY P.C.
P.O. Box 5257
New York, New York 10150-5257
(212) 527-7700
(212) 527-7701 (Fax)
Attorneys/Agents For Applicant